AMENDMENTS TO CLAIMS

Amend the claims as follows:

1. (Currently Amended) A magnetic localization device, comprising:

a) a field generator for generating a magnetic field;

b) a field sensor for measuring the magnetic field;

c) a reference sensor for measuring the magnetic field at a known reference position; and

d) a control unit, which is arranged for determining ~~the~~ a position of the field sensor relative to the field generator and thereby ~~for~~ compensating for external field distortions by taking the reference sensor into consideration and correcting the determined position of the field sensor if external field distortions are present.

2. (Previously Presented) A localization device as claimed in claim 1, wherein the spatial position of the field generator is known.

3. (Currently Amended) A localization device as claimed in claim 1, wherein at least one of the field generator and[[/or]] the reference sensor [[are]] is fastened to the gantry of a computer tomograph.

4. (Currently Amended) A localization device as claimed in claim 1, wherein the control unit contains a memory with a calibration function, which provides a correction shift for [[the]] an uncorrected determined position of the field sensor based on measured signals of the reference sensor and the field sensor.

5. (Canceled)

6. (Currently Amended) A method for position measurement with a magnetic localization device, comprising the steps of:

a) collecting the signals of at least one of a field sensor and[[/or]] a field generator;

b) collecting the signals of a magnetic reference sensor, which is placed at a known spatial position relative to the field generator or to the field sensor; and

c) determining ~~the~~ a position of the field sensor relative to the field generator, where external field distortions are compensated for by taking the signals of the reference sensor into consideration and correcting the determined position of the field sensor if external field distortions are present.

7. (Currently Amended) A method as claimed in claim 6, wherein a correction function is determined, which indicates a correction shift for [[the]] an uncorrected determined position of the field sensor in dependence on the signal of the reference sensor and the uncorrected determined position of the field sensor.

8. (Currently Amended) A method ~~as claimed in claim 7,~~ for position measurement with a magnetic localization device, comprising the steps of:

a) collecting the signals of at least one of a field sensor and a field generator;

b) collecting the signals of a magnetic reference sensor, which is placed at a known spatial position relative to the field generator or to the field sensor;

c) determining the position of the field sensor relative to the field generator, where external field distortions are compensated for by taking the signals of the reference sensor into consideration;

d) wherein a correction function is determined, which indicates a correction shift for an uncorrected determined position of the field sensor in dependence on the signal of the reference sensor and the uncorrected determined position of the field sensor; and

e) wherein the correction function for support points in a volume of interest is empirically determined and extended by extrapolation or interpolation respectively on the whole volume.

9. (Previously Presented) A method as claimed in claim 6, wherein a parameter is determined from the signal of the reference sensor, which parameter characterizes the external field distortion.

10. (Currently Amended) A method ~~as claimed in claim 9,~~ for position measurement with a magnetic localization device, comprising the steps of:

a) collecting the signals of at least one of a field sensor and a field generator;

b) collecting the signals of a magnetic reference sensor, which is placed at a known spatial position relative to the field generator or to the field sensor;

c) determining the position of the field sensor relative to the field generator, where external field distortions are compensated for by taking the signals of the reference sensor into consideration;

d) wherein a parameter is determined from the signal of the reference sensor, which parameter characterizes the external field distortion; and

e) wherein the parameter describes the angle of rotation of a computer tomograph situated in the vicinity of the localization device.

11. (New) A method as claimed in claim 7, wherein the correction shift further depends on empirical measurements taken with a probe sensor at one or more support points in a volume of interest.

12. (New) A method as claimed in claim 7, wherein the signal of the reference sensor is used to determine a correction parameter describing an angle of rotation of a computer tomograph situated in the vicinity of the localization device.

13. (New) A localization device as claimed in claim 4, wherein the correction shift is further based on empirical measurements taken with a probe sensor at one or more support points in a volume of interest.

14. (New) A localization device as claimed in claim 4, wherein the measured signals of the reference sensor are used to determine a correction parameter describing an angle of rotation of a computer tomograph situated in the vicinity of the localization device.